Reprinted from *Crop Science*
Vol. 29, No. 2

REGISTRATION OF AU CYCLE 2 ALFALFA GERMPLASM

AU CYCLE 2 alfalfa (*Medicago sativa* L.) (Reg no. GP-209) (PI 522238) was developed and released by the Alabama Agricultural Experiment Station, Auburn University. It is the result of 13 yr of alfalfa improvement using recurrent phenotypic selection for plant persistence, and was released January 1988. The base population from which this germplasm was derived consisted of 50 random plants from each of 90 cultivars and experimental lines obtained from public and private sources throughout the USA. These 4500 plants were grown in a greenhouse and transplanted to a selection nursery at Auburn University's Plant Breeding Unit, Tallessee, AL, in the autumn of 1974. Plants were established on 1-m centers, and were clipped at ground level on a monthly basis (approximately seven times per year) beginning in the spring of 1975. In April 1979, one plant was selected from each of 57 of the above cultivars and experimental lines based on persistence and vigor.

Two propagules each of these 57 plants were transplanted to an isolation block and were pollinated by honeybees (*Apis mellifera* L.) at the nursery. Seed from this nursery was bulked, seeded into rows, and the resulting plants were mated again using honeybees. Seeds from this second mating were bulked and designated AU CYCLE 1 alfalfa.

Seeds of AU CYCLE 1 alfalfa were germinated in the greenhouse and 5000 randomly selected individuals were transplanted in an isolated nursery. Plants were established in 1-m rows, spaced 150 mm apart in the row in the autumn of 1982. They were clipped near ground level at approximately 10% bloom, beginning in the spring of 1983. After 4 yr of this selection pressure, 70% of the population was lost. Three hundred vigorous plants were selected from the survivors in April 1987. These 300 plants were moved to isolation and mated using honeybees in the summer of 1987. Seeds from these plants were collected, bulked, and designated AU CYCLE 2 alfalfa.

AU CYCLE 2 alfalfa is quite variable in morphological characters including flower color, leaf size and shape, stem diam., and stem rigidness. It is expected to be superior in persistence in the Southeastern U.S. environment. Seed will be maintained in cold storage and will be distributed in limited quantities (5 g) upon request from the Agronomy and Soils Department, Auburn University, Auburn, AL 36849.

J.F. PEDERSON* AND R.L. HAALAND (1)

References and Notes

1. J.F. Pedersen, USDA-ARS, Dep. of Agronomy, University of Kentucky, Lexington, KY 40546-00914; and R.L. Haaland, Shell Toomer Pkwy., Auburn, AL 36830. Contribution of the Alabama Agric. Exp. Stn., Auburn Univ., AL 36849. AAES Journal no. 3-881516A. Registration by CSSA. Accepted 30 Aug. 1988. *Corresponding author.

Published in Crop Sci. 29:491–492 (1989).